



WORKING PAPER

ASSEMBLY — 41ST SESSION

TECHNICAL COMMISSION

Agenda Item 31: Aviation Safety and Air Navigation Standardization

AIRSPACE CLASSIFICATION SYSTEM REVIEW TO ALIGN AIRSPACE CLASSIFICATIONS WITH PRESENT AND FUTURE REQUIREMENTS

(Presented by the United Arab Emirates)

EXECUTIVE SUMMARY

This working paper is meant to open the discussion for the need to review of the present airspace classifications to align it with present concepts and to address future technological requirements. It acknowledges the existing Annex 11 — *Air Traffic Services*, Standards and Recommended Practices and the non-alignment to present and future requirements.

It introduces the concepts of performance-based operations, remotely piloted aerial systems (RPAS) requirements, with particular recognition of urban air mobility challenges, proposed commercial space and hypersonic operations as well as acknowledging the need for the introduction of environmental imperatives and restrictions.

Action: The Assembly is invited to:

- a) request ICAO to acknowledge the need for an updated airspace classification system to provide more flexibility and alignment with modern airspace principles to satisfy future operational requirements;
- b) request ICAO to solicit States and international organisations to provide comment in relation to their present and future requirements for the realigning of the present airspace classification system; and
- c) request ICAO to establish a working group to review airspace classifications.

<i>Strategic Objectives:</i>	This working paper relates to the Safety and Air Navigation Capacity and Efficiency Strategic Objectives.
<i>Financial implications:</i>	This working paper has no significant financial implications.
<i>References:</i>	Annex 11 — <i>Air Traffic Services</i> , Chapter 2 and Appendix 4

1. INTRODUCTION

1.1 Whilst acknowledging Annex 11 — *Air Traffic Services* to the Convention on International Civil Aviation (Doc 7300), to be used in implementing airspace classifications which directly impact on the services and equipage requirements for aircraft operating in certain airspace sectors, it must be acknowledged that the technological, commercial and operational environment which utilises these airspace classifications is evolving and providing new challenges in which the present airspace classification falls short of addressing.

2. DISCUSSION

2.1 ICAO, by way of Annex 11, has adopted an airspace classification system detailed in Chapter 2, 2.6 and in tabular format in Appendix 4. This airspace classification system provides a methodology whereby airspace can be allocated a classification of A through to G which details the separation between aircraft provided, the nature of the air traffic service provided, speed/altitude restrictions, radio communication requirements and air traffic control clearance requirements in each class of airspace. These airspace classification categories were introduced in Amendment 39 in November 1999 and not revised subsequently.

2.2 The period post 2000 has seen significant technological development in the way that airspace is utilized and regulated and as such, airspace classifications need to be reviewed to assess the appropriateness of these classifications. Some of these evolutions include the introduction of performance-based operations and the introduction of standards to define certain outcomes based standards for equipment and services. Further new technological advances have led to the introduction of commercial RPAS operations, which are at present generally in Category G airspace but which will shortly be evolving with the introduction of unmanned aerial systems traffic management systems (UTM) which utilize the performance-based concepts and which will require a new set of standards particularly within the urban air mobility sector of operations. New developments in commercial aircraft technology also raises the need for the accommodation of high speed and space operations whereby a different set of challenges facing operations above FL600 will need to be addressed in how that airspace is classified. Lastly another area of development has been the acceptance and introduction of environmental imperatives within the commercial aviation operations community and the need for certain restrictions in certain airspaces could be addressed within a revised airspace classification system by providing for example noise and emission requirements for the use of certain airspace.

3. CONCLUSION

3.1 Contracting States worldwide at present are limited in the classification options available and as such the classification of the airspace generally has a number of additional requirements provided as addendums for example, the performance-based communication/navigation/surveillance Standards needed for operations in that airspace. Therefore, the need to address these shortfalls and provide a system more aligned to present and future airspace utilization would enable the alignment of the service and usage requirements of airspace with the classification thereof. Therefore, it is requested that Contracting States consider the recommendation of initiating a review of the present airspace classification system to better align the system with present and future operational requirements.